E-TON

VIPER
OWNER'S MANUAL



Viper 50M, Viper 70, Viper 90 and Viper 90R

Copyright ©2008-2009 ETON America, all rights reserved.

Copyright ©2008-2009 ETON America, all rights reserved.

Important Notices

READ and UNDERSTAND this owner's manual

Both the operator and the adult supervisor should completely read and understand this owner's manual before operating this vehicle. This owner's manual will instruct you in the safe operation of the vehicle.

NO Passengers

This vehicle was designed for operation ONLY by the operator, (Driver). The load limit and seat configuration is designed for the operator ONLY. It is not safe to carry passengers on the vehicle.

ADULT Supervision and Instruction are REQUIRED.

This vehicle MUST NOT be operated by a youth without Adult supervision and instructions. Unattended operation without adult supervision could result in injuries. E-TON recommends that both the operator and the adult supervisor attend an ATV safety instruction course.

ALWAYS Wear Protective Clothing

While operating this vehicle, the driver must always wear protective clothing. Protective helmet with face shield, elbow and knee pads, long leg pants, gloves and hard soled boots should always be worn when operating this vehicle.

OFF ROAD Use ONLY

This vehicle is designed and manufactured for off-road use only. Operation on public streets, roads or highways is illegal and very dangerous.

OBEY all State and local laws and regulations

Each state and local governing agency has laws and regulations for ATV operations. It is the owner's responsibility to know, understand and obey these laws and regulations.

SPEED RESTRICTION Devices

This vehicle is equipped with electronic speed limiting devices. Any attempt to change, over-ride or bypass these devices may cause dangerous operating conditions.

Age Recommendations by model size			
ATV Model Size	***ETON Models***	***Minimum Age***	***Weight Capacity***
Under 70cc	*RXL-40Ee* *RXL-50M* *RXL-70*	*6 years and older*	*70 Lbs*
70 - 90cc	*RXL-90* *RXL-90R*	*12 years and older*	*250 Lbs*
over 90cc	*CXL-150*	*16 years and older*	*250 Lbs*
150 cc	*CXL-150*	*16 years and older*	*300 Lbs*

Copyright ©2008-2009 ETON America, all rights reserved.

Table of Contents

Safety notes	3
Vehicle identification number location	7
Controls, switches and feature locations	7
Control feature operations	
Engine stop switch	8
Manual Choke Lever	8
Throttle lever	8
Front & Rear Brakes	9
Parking brake	9
Safety Tether Switch	9
Remote Stop / Start Switch	9
Fuel System	
Fuel tank	10
Fuel valve	10
Inline Fuel Filter	11
Engine Oil	
Oil Tank	11
Oil Indicator light	11
Tires & Wheels	
Tire inspection	12
Tire pressure	12
Spark Plug	12
Spark Arrester Screen	12
Air Filter	13
Braking Systems	
Front Brake Inspection	13
Front Brake Adjustment	14
Rear Brake Inspection	14
Filling the Brake Fluid Reservoir	15
Purging Brake Line	15
Drive Chain	16
Throttle Lever	16
Electrical Battery	17
C.V.T. Air Filter (Transmission)	17
Transmission Gear Selector Control	18
ATV Break-In Procedure	18
Changing Transmission Oil	18
Pre-Operation Inspection	19
Starting procedure	19
Driving	20
Turning	20
Parking	20
Specifications	
Viper 50M	21
Viper 70	23
Viper 90 & 90R	25
Maintenance Schedule	27
Maintenance Record Chart	27
Wiring Diagram Viper 50M	28
Wiring Diagram Viper 70	29
Wiring Diagram Viper 90	30
Wiring Diagram Viper 90R	31
Manufacture's Warranty	32
Owner's Notes	34

Copyright ©2008-2009 ETON America, all rights reserved.

Safety Notes

1. Both the adult supervisor and youth operator must fully understand everything in this manual before operating this vehicle.

2. This vehicle was designed for the operator only. NO PASSENGERS should be allowed on this vehicle.

3. This vehicle is designed for operation on level, obstacle free off-road areas.

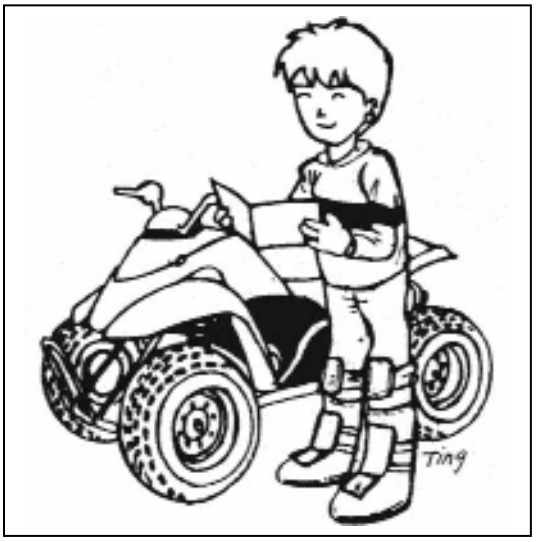
4. Riding this vehicle on public roads or highways is illegal. If it becomes necessary to cross a public road or highway, the vehicle should be pushed across using extreme caution.

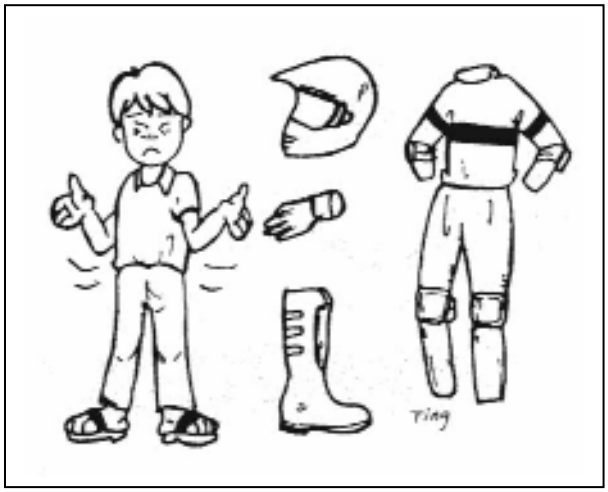
5. This vehicle MUST NOT be operated without adult supervision and instruction.

6. DO NOT operate this vehicle while under the influence of drugs, alcohol or other medication that impairs judgment or coordination. Doing so can result in serious injury or even death.

7. Maintain a safe distance between your vehicle and other vehicles with whom you are riding.

8. READ the owner's manual carefully before riding.





9. ALWAYS wear a helmet, face shield, elbow & knee pads, hard-soled boots, gloves, and protective clothing while operating this vehicle.

Copyright ©2008-2009 ETON America, all rights reserved.

10. NEVER ride this vehicle unless it has been properly maintained and adjusted. Always perform a pre-ride inspection of your vehicle. Look for wires, bolts and other fasteners that may have come loose on previous rides. Inspect the drive chain, throttle and brakes for proper adjustment and operation. Check the engine oil level in the oil tank. Check fuel level and inspect for fuel leaks. (Remember, you can ride further in 1 hour than you can walk back in 1 day!)





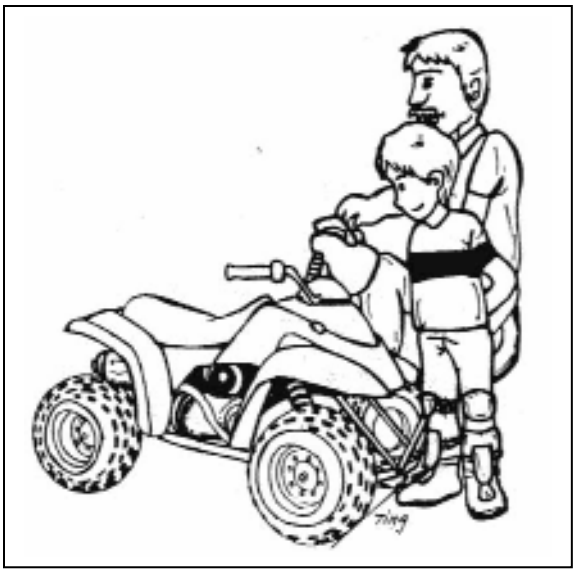
11. WARM UP your body with some exercises before riding. This helps to make you alert and prevent cramping and other discomfort.

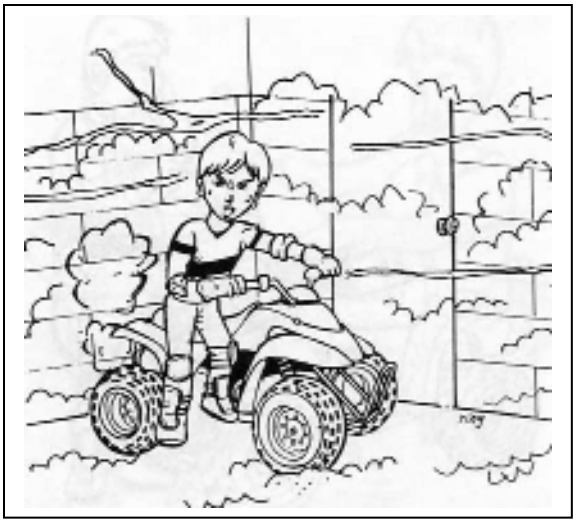
12. LEARN TO RIDE this vehicle properly and safely. Have an experienced rider teach you the safe operation of your vehicle. E-TON recommends you take an ATV riding course before you first ride your vehicle.



Copyright ©2008-2009 ETON America, all rights reserved.

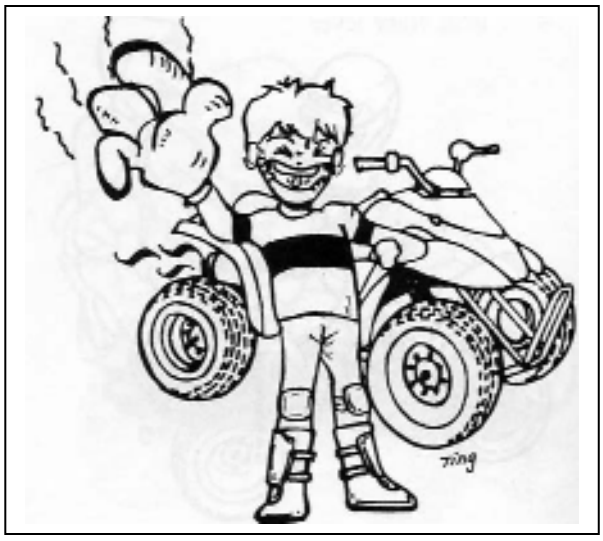
13. NEVER REFUEL this vehicle when hot. Ask your adult supervisor to refuel your vehicle. Gasoline is extremely flammable and will ignite if spilled on a hot engine or muffler. Never smoke or expose the fuel to an open flame or spark while refueling your vehicle. Always refuel your vehicle in a safe place free of any ignition source.





14. NEVER run the vehicle in an enclosed area. The exhaust gases from the engine contain CARBON MONOXIDE which can be fatal if breathed in high concentrations for an extended time.

15. HOT! The engine and exhaust system on your vehicle become very hot during normal operation. Touching these hot surfaces can cause severe burns. Always assume that your unit's engine and exhaust system are HOT unless you know that they are not.



Copyright ©2008-2009 ETON America, all rights reserved.

Additional safety tips:

- Participate in an approved ATV safety education training program
- Always provide responsible adult supervision for ATV operators younger than 18 years of age
- Don't let youngsters ride full-sized ATV's
- Follow all safety recommendations of the ATV manufacturer
- Operate ATVs only during daylight
- Wear a helmet with face protection at all times
- Operate only four-wheeled ATVs
- Provide a drug and alcohol free environment
- Always use the buddy system
- Avoid riding in areas where contact with automobiles might be possible
- Drive ATVs on surfaces as recommended by the manufacturer
- Travel at speeds conducive to conditions and operator abilities
- Check on the conditions of the trails you will be traveling
- Know and understand local and state laws governing the use of ATVs
- Permit only one operator per ATV
- Insist on a "perfect fit" between the ATV and the physical, mental, and emotional maturity of the operator
- Use antenna flags and wear bright clothing to increase conspicuity.
- Use maps and compass if you are riding in an unfamiliar area.
- Make a mental note of landmarks; you may need them if you are stranded.
- If you are lost at night, do not move around. You will waste valuable fuel that you can use to ride safety in the daylight.
- Carry a first-aid pack with you.
- Carry some snacks and a water supply with you.
- Carry equipment to handle medical and mechanical emergencies.
- Your vehicle field repair kit should include the following items;
    - the manufacturer's tool kit
    - wire, tape, elastic cords,
    - possibly locking pliers
    - and a tow rope.
- Pre-Ride Inspection - Inspecting the condition of your ATV before each ride is very important to minimize the chance of injury and maximize the enjoyment of your ride. It also helps ensures long term performance of your ATV. Follow the owner's manual guide to inspection and maintenance of your ATV. A well maintained ATV will give you years of enjoyment.
- Watch out for thin ice which may be camouflaged by snow.
- Remember, you can ride further in one hour than you can walk in an entire day.

Age Recommendations by model size			
ATV Model Size	***ETON Models***	***Minimum Age***	***Weight Capacity***
Under 70cc	*RXL-40E* *RXL-50M* *RXL-70*	*6 years and older*	*70 Lbs*
70 - 90cc	*RXL-90* *RXL-90R*	*12 years and older*	*250 Lbs*
over 90cc	*CXL-150*	*16 years and older*	*250 Lbs*
150 cc	*CXL-150*	*16 years and older*	*300 Lbs*

Copyright ©2008-2009 ETON America, all rights reserved.

Vehicle Identification Numbers



Vehicle Identification Number (VIN) is located at the front of the unit under the front fender on a plate mounted between the main frame rails.



Engine serial number is located on the left-hand side of the engine on the crankcase housing.

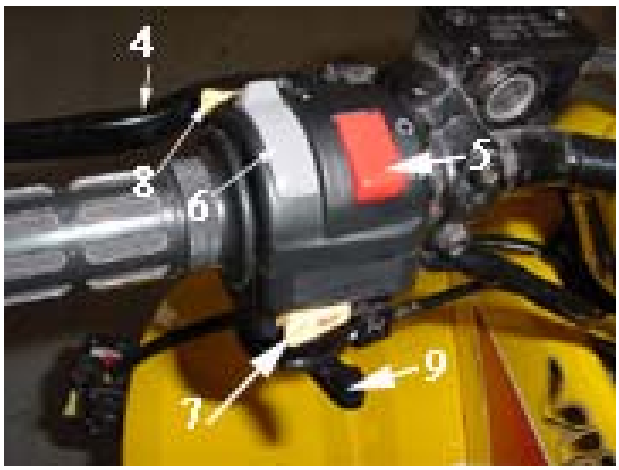
Your VIN RFZ_____ Eng. No._____

Controls, Switches & Feature Locations

Locations of controls and features

1. Fuel Tank filler and vent tube
2. Front brake lever (Parking Brake Lock)
3. Throttle lever
4. Rear brake lever
5. Engine stop switch
6. Head lamp switch
7. Horn button
8. Engine starter button
9. Manual Choke Lever





Copyright ©2008-2009 ETON America, all rights reserved.

Control Features

Engine Stop Switch

The 

stop switch is a red colored rocker switch located on the left-hand handle bar.

To start and run the engine, this switch must be placed in the on, “O”, position.

The vehicle is also equipped with a safety brake switch which will prevent the engine from starting until the parking brake is engaged.

To stop your engine, place the switch to the stop, “**X**”, position.

In the stop, “**X**”, position the ignition system is grounded preventing the spark plug from firing.

This switch can also be used as a safety or emergency stop switch.

Manual choke lever (9)

All Viper models are equipped with a manually operated carburetor choke system. This choke is operated by the lever at the bottom of the left hand control switch.

When first starting the engine,(cold start), place the lever in the full left position, (Choke closed or on) As the engine warms return the lever to the full right position. (Choke open or off).

Throttle lever



The throttle lever is located on the right-hand handle bar below the grip. To operate the throttle lever, place your right thumb on the lever and press forward to increase your speed. To decrease your speed, reduce your pressure on the lever and the spring tension will automatically reduce your speed.



The travel of the throttle lever is controlled by the throttle stop bolt.

As your operator gains more experience, you can increase the throttle travel to allow for additional speed to be obtained.

To increase the throttle’s travel, thus increasing the maximum speed, turn the throttle stop bolt counter clockwise. To decrease the throttle’s travel, thus decreasing the maximum speed, turn the throttle stop bolt clockwise.

The throttle cable should be adjusted so there is 2mm, (1/8”) free travel at the lever before the throttle starts to open.

Copyright ©2008-2009 ETON America, all rights reserved.

Front and Rear Brakes

This vehicle is equipped with dual front mechanical drum brakes and a rear hydraulic disc brake. *(Viper 70 Viper 90 & Viper 90R) (Viper 50M is equipped with rear hydraulic disc brake only)*

The front brakes are controlled by the long brake lever on the right-handle bar.

The rear brake is controlled by the long lever on the left-handle bar.

The rear brake is the primary stopping brake on your vehicle. Using the rear brake to stop your vehicle will prevent steering control loss.

Use your front and rear brakes in combination to control your speed while descending a grade. Use caution not to apply too much pressure to your front brakes so that the wheels lock up, stop turning, and causing a loss of steering control. If the front wheels lock up, and stop turning, lightly reduce the pressure on the front brake lever until they unlock and start to turn.

Parking Brake

The front brake lever has a button located at the pivot point to lock the brake in the, "**O**", on position. This should be engaged as a parking brake whenever the vehicle is not in operation.



This feature must be engaged in order to start the engine. The brake lever has a safety switch built in to prevent the engine from starting while the brake is disengaged.

If your engine fails to start, ensure that the engine stop switch is in the on, "**O**", position and that the parking brake is engaged.

Safety Tether Switch



The Viper 50M and Viper 70 models are equipped with a safety tether switch (optional on Viper 90R). The switch is located on the left hand side of the handlebars. The switch cap must be fully engaged for the vehicle to start and run.

The cap is tied to a tether that should be worn around the rider wrist. In case of an emergency a simple pull on the tether will disengage the switch and stop the engine.

Remote Stop/Start Switch



The Viper 50M come equipped with a remote Stop/Start key ring switch. (*This feature is an optional kit for the Viper 70 & Viper 90. A remote Stop Only kit is optional for the Viper 90R).*

The remote switch has two buttons, a Stop button which will stop the engine when pressed. The effective range of the switch is **30 feet unobstructed.**

Copyright ©2008-2009 ETON America, all rights reserved.

Once the unit has been stopped with the remote switch you must press the run button in order for the unit to be restarted. This action resets the remote receiver on the unit.

The unit may also be started remotely by pressing both the Stop & Run buttons together.

Safety Note: Always test the remote switch before beginning a riding session. The remote switch is operated by a battery which should be replace one a year. You can obtain a replacement battery at your local department store.

Fuel Tank

The fuel tank fill cap is located on top of the



unit just ahead of the seat. The cap contains a vent to prevent a vacuum from forming in the tank as fuel is used. The vent tube must be attached to the cap and inserted in the vent tube holder hole while operating the unit. The fuel cap vent and vent tube must be clean and clear of obstructions for the unit to operate normally. You can check the vent and vent tube by blowing air through the tube. If you can not blow through the vent tube and cap you must clean the vent and tube or replace them.

Every time you refuel your unit, check the rubber seal inside the cap for cuts, tears and dirt. Clean or replace the seal if it becomes worn or torn. The seal must be in good condition to insure a proper seal of the cap to the tank to prevent fuel spills. DO NOT allow dirt or other debris to enter the tank when refueling.

Replace the cap if damaged or if it will not seal to the tank.

Tighten the cap snugly, being careful not to over tighten. Over tightening the cap can cause damage to the cap or seal.

The fuel tank capacity is 4.5 liters, 1.2 gal, including a reserve of 0.8 liters, 0.2 gal.

Use unleaded automobile gasoline with an octane level of 91 or higher.

NEVER REFUEL YOUR ATV when the engine is HOT. Wait 30 minutes after turning off the unit before refueling. Spilling fuel on a HOT engine could cause a fire. Wipe up any fuel spills before re-starting.

Fuel Valve

The unit is equipped with a three way fuel valve located on the left side of the unit just below the



seat.

The valve has three settings; “OFF”, “ON” and “RES”. With the valve in the “OFF” position fuel is held in the tank and is prevented from flowing to the carburetor. The valve should be placed in the “OFF” position whenever the unit is not being operated. Place the valve in the “ON” position for normal operation of the unit. This allows fuel to flow to the carburetor for normal operating. The “RES” position allows fuel to flow from the small reserve in the tank to allow the unit to be taken to a refueling location.

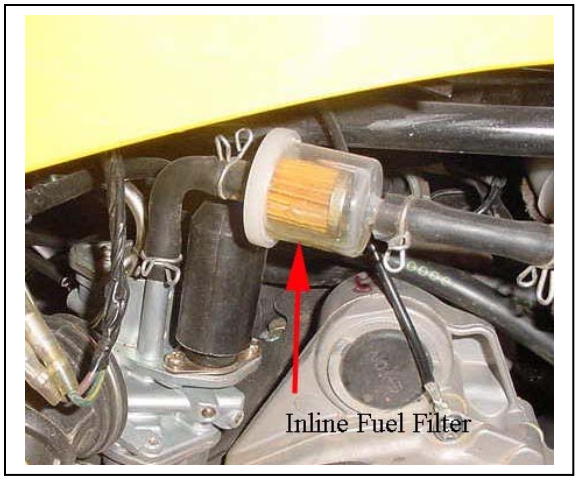
Copyright ©2008-2009 ETON America, all rights reserved.

When you have to switch to the “RES” position you must refuel the unit as soon as possible.

ALWAYS CHECK YOUR Fuel level before you start riding your ATV.
Remember: You can drive further in one hour on your ATV than you can walk in one day.

Inline Fuel Filter

Your ATV is equipped with an inline fuel filter to prevent dirt and debris from entering the carburetor and engine.



Check the filter for dirt or damage before each ride and at each refueling. Replace the filter if dirty or damaged.

The filter should be replaced every 600 hours of operation and at the start of each season.

To replace the filter, first turn the fuel valve to the “OFF” position. Then carefully compress the wire clamp rings until the clamp is free of the fuel line. Slide each clamp away from the filter about ¾”.
Remove the filter from the fuel line by holding the line and pulling the filter. Install the new filter by inserting the filter into the fuel line and returning the clamps to the original position. Turn the fuel valve to the “ON” position and check for leaks. Inspect the fuel lines for cuts, abrasions and deterioration. Replace fuel lines as needed.

DO NOT start or operate the engine if the fuel filter or lines are leaking. Leaking fuel can cause a fire.

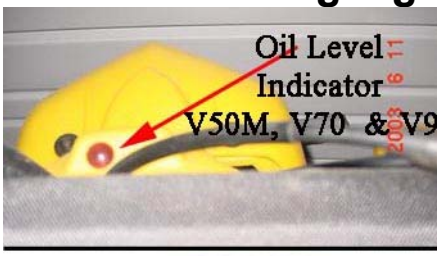
Engine Oil Tank

2 Cycle Engine



Your ATV uses 2 cycle oil to lubricate the engine. The oil tank is located under the seat at the front of the unit. Oil is drawn from this tank by an oil injector pump when the engine is operating.

Oil Level Warning Light





The unit is also equipped with an oil level indicator lamp. The lamp will light when the oil level in the tank is low. When the lamp is lit you MUST refill the oil tank.

Copyright ©2008-2009 ETON America, all rights reserved.

DO NOT allow the engine to operate with an empty oil tank. Doing so will result in extensive damage to your engine. This damage is not covered under the warranty.

Check the oil tank level manually during every other refueling operation.

The oil tank capacity is 1.1 liters, 1.2qt.

Fill the tank with high quality JASO FC grade 2 cycle engine oil. Using lower grade oil can cause exhaust smoke and result in damage to your engine.

Your first tank of fuel should be a pre-mix fuel with a 50:1 fuel to oil ratio. This will insure the engine is lubricated and give the oil pump time to bleed any air from the oil line that may have occurred during shipping.

Tires and Wheels



Tire & Wheel inspection

It is important to inspect your tires and wheels for damage and wear before each riding session. Inspect each tire for cuts, tears and punctures. Inspect the wheel rim for dents and separation of the wheel from the tire bead.

Replace any tire or wheel found to be damaged.

Operating your ATV with damaged tires or wheels is dangerous. Damaged tires or wheels can result in a sudden loss of tire pressure and control which could result in injuries.

Check your tire pressure before each riding session and at each refueling operation. Always check the pressure when the tires are cool. Use the tire pressure gauge that came with your ATV to check the tire pressure.

Tire Pressure

Recommended tire pressure is:
7psi Maximum (Hot – after riding awhile)
2psi Minimum (Cold – Before riding)

Wheel Nut torque 24-30 N/m (18-22 lb/ft)

Spark Plug

Replace spark plug at the beginning of each season with a replacement plug
NGK - BPR7HS.

Disconnect spark plug wire.
Clean dirt from around spark plug base with brush or air.
Remove spark plug with spark plug wrench.
Set the spark plug gap on the new plug to 0.023”
Install the new plug screwing it in finger tight and then use the plug wrench to screw the plug in another ½ turn.
Inspect the spark plug wire for cuts, nicks or other damage. Replace as needed.

Spark Arrestor Screen

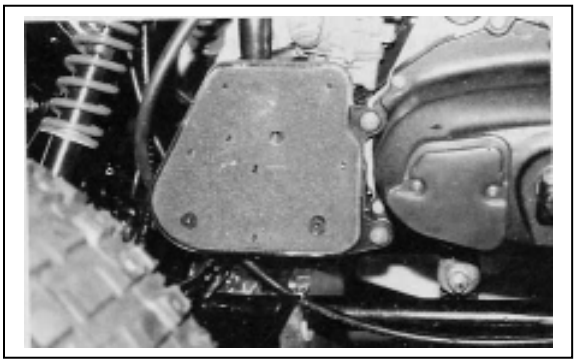
Required maintenance and cleanout:

1. After every 100 hours of operation the muffler should be cleaned by removing the clean out bolt by using a 12mm wrench.
2. After every 60 hours of operation the Spark Arrester has to be cleaned by loosening the retaining nut using a 10mm socket. Using pliers turn the sleeve of the Spark Arrester counterclockwise and pull out. Clean the screen with an exhaust cleaning solution and replace, securing it by tightening the retaining nut.
3. After every 200 hours of operation the Spark Arrester has to be replaced by loosening the retaining nut using a 10mm socket or wrench. Using pliers turn the

Copyright ©2008-2009 ETON America, all rights reserved.

sleeve of the Spark Arrester counterclockwise and pull out. Replace a new Spark Arrester and secure it by tightening the retaining nut.

Air Filter



Air Filter Maintenance

To maintain the highest performance from your engine and to reduce excessive wear that could cause engine failure the engine requires a continuous flow of clean air. Air is taken into the engine through an air filter to clean the air prior to mixing it with fuel and oil in the carburetor.

During normal operation the filter accumulates dirt from the air and will need to be cleaned to maintain the proper air flow. The filter should be cleaned every 30 days, more often if you ride in a dusty or dirty environment and the element should be replaced every year.

The air filter box is located on the left side of the engine under the front fender. It is a black box about 6" square and is attached to the crankcase with two bolts and the carburetor by a tube.

To clean the filter

Remove the air filter box cover.
Remove the filter element from the air box.
Wash the element in a non-flammable solvent such as Air-Filter cleaner from your local auto parts dealer.

1. Dry the element completely before continuing.
2. Soak the element in clean engine oil until completely saturated.
3. Squeeze out the excess oil until the element does not drip any oil.
4. Allow the element to dry then reinstall the element and cover.

Braking Systems

Your ATV unit is equipped with dual front mechanical drum brakes and a rear hydraulic disc brake. The front brakes are applied by squeezing the brake lever on the right-handle bar, while the rear brake is applied by squeezing the brake lever on the left-handle bar.

Proper maintenance of the brake system is a necessary part of safe operation of your unit. The brake systems should be inspected and tested before each riding session.

Front Brake System Inspection

Visually inspect the brake cables for any signs of wear. Inspect the cables for frays and kinks that inhibit the free movement of the cable. Replace frayed or kinked cable before operating your unit. Inspect the cables for rust or corrosion. Replace any brake cable that show signs of corrosion as this could cause a reduction in cable strength that can lead to the cable breaking.

Inspect the brake arm, spring, rod and fastener for signs of wear or damage. Operate the brake lever while watching the brake mechanism for proper operation. Tighten, repair or replace parts as needed to insure safe brake operation. Clean any build-up of mud or debris from the brake mechanism.

The brakes are equipped with a wear indicator to alert you when your brake shoes need replacing. Apply light pressure to the brake lever and slowly push the unit forward. If you hear a high pitched metallic scraping sound, you need to replace your brake shoes. The minimum shoe lining thickness is 1.5mm.

DO NOT RIDE A UNIT WITH WORN BRAKE SHOES.

Test the brakes by applying pressure to the brake lever and trying to push the unit forward. If the

Copyright ©2008-2009 ETON America, all rights reserved.

wheel rotates while the brakes are applied, adjust the brake cable until the wheels no longer rotate.
(See Brake Adjustment)

Brake Adjustment



Adjust the brake cable so that the lever has zero free play and a minimum clearance of ½" between the lever and the handle grip when the brake is fully applied. Adjust the cable by using the adjustment wheel where the cable attaches to the lever assembly. After obtaining the correct adjustment, insure that the locking nut is tightened securely against the adjusting wheel to prevent the adjustment wheel from turning due to vibration. Keep your brake cables lubricated with a high quality cable lubricant to prevent rust and corrosion. The cables should be lubricated every 60 days or more often if operated in a dusty or wet environment.



Replacement of the brake shoes and cables should ONLY be preformed by a qualified mechanic.

Rear Brake System Inspection

Visually inspect the brake hose for any signs of wear



or leaks. Check the fluid level in the fluid reservoir by checking the site glass for the level.

The fluid level should fill at least ¾ of site glass when the unit is setting on a level surface.
Test the brakes by applying pressure to the brake lever and trying to push the unit forward. If the wheel rotates while the brakes are applied, check your fluid level and brake pads. If the brake lever feels spongy or does not stop when squeezed, you may have air in the lines. All air must be purged from the brake lines for the disc brake to operate properly. (See purging brake lines).



After riding your unit, be sure to clean any build up of mud, sand and dirt from the brake rotor skid plate. This will protect the rotor disc from rust and corrosion.

To Fill the Reservoir

Remove the reservoir cover by removing the two cover bolts.

Copyright ©2008-2009 ETON America, all rights reserved.

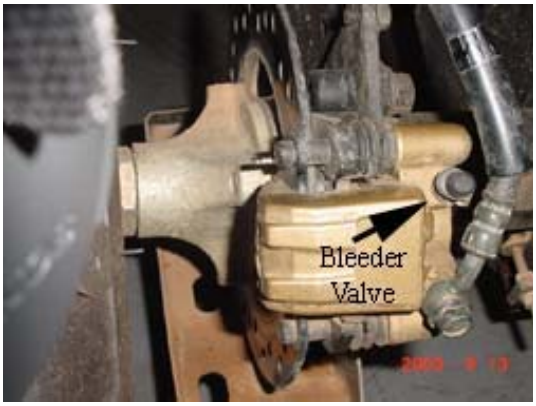
Fill the reservoir to 1/8” from top with Dot-3 SAE-J1703 grade brake fluid.

Caution: DO NOT allow dirt to fall into the reservoir.

Refold the cover gasket as shown in picture and replace cover and bolts



To bleed the air will require two people to perform the following procedure.



1. Place a drain pan under the brake caliper to catch the fluid.
2. Open the bleeder valve ½ turn counter clockwise.
3. Squeeze the brake lever to expel air from the system.
4. While holding the brake lever, close the bleeder valve.
5. Repeat steps 2 through 4 until the brake fluid coming from the bleeder valve is a solid stream without any air, then close the valve and replace rubber protection cap.
6. Test the brake system by squeezing the lever, the lever should feel firm and stop without fading.

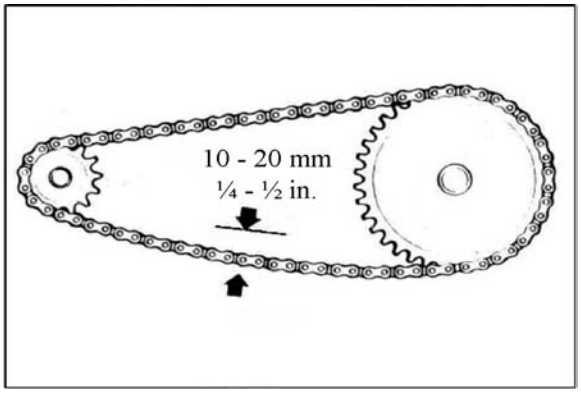
Purging Brake Lines

For the hydraulic brake system to operate safely, the brake system must be purged of air in the lines and reservoir.

Copyright ©2008-2009 ETON America, all rights reserved.

Drive Chain

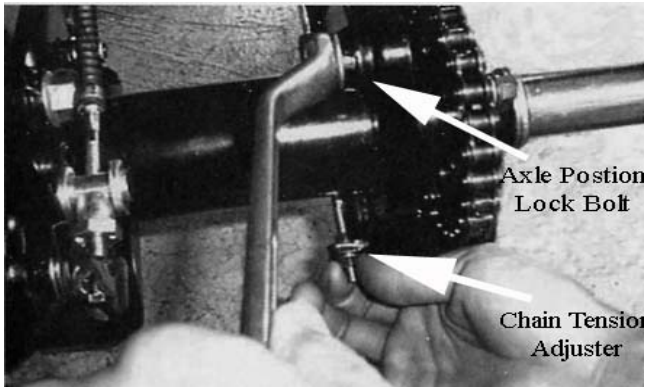
The drive chain will stretch with use and will require periodic adjustments. To check the chain tension, remove the chain guard and measure the slack.



The amount of slack in the chain should not exceed 10-20mm or ¼" - ½".

Inspect the drive and axle sprockets for worn, damaged or broken teeth. Replace as needed. Inspect the chain links for damaged, worn or loose rivets. Repair or replace as needed.

Chain Slack Adjustment



Loosen the axle position lock bolt slightly and turn the chain adjuster nut to take up the excess slack in the chain. Once the chain has been adjusted to the proper tension retighten the axle position locking bolt.

The chain should be kept well lubricated to prevent excess wear and premature failure. We recommend that you lubricate the chain every 15 hours of operation, or more frequently if needed, with a high quality chain lubricant.

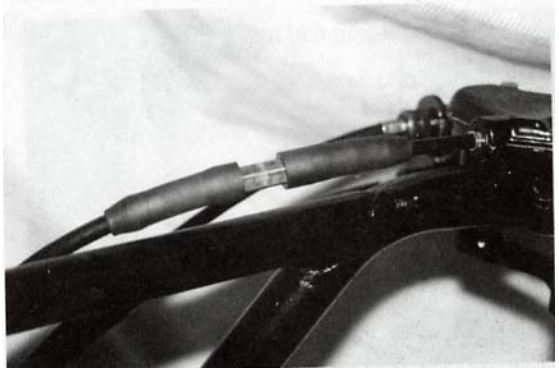
Throttle Lever



The throttle lever is located beside the right-handlebar grip and is operated by using the right-hand thumb. The lever is spring loaded and will return to the idle position when you remove your thumb from the lever. To accelerate the unit, simply press the lever forward to open the throttle slide in the carburetor. To slow the unit, reduce the pressure on the lever or remove your thumb and the throttle will return to the idle position automatically.

Adjusting the throttle cable

The cable should be adjusted to allow for ⅛" free



travel before the throttle engages the carburetor throttle slide. To adjust the cable's free travel, loosen the locking nut of the cable adjuster, and turn the adjuster wheel until there is ⅛" free travel in the lever. Tighten the locking nut to secure the adjusting ring.

The speed of the unit can be adjusted by adjusting the throttle stop screw to limit throttle travel.

Copyright ©2008-2009 ETON America, all rights reserved.

Loosen the throttle stop screw locking nut and turn the throttle stop screw clockwise to reduce



the throttle travel thus reducing the maximum speed of the unit. Turning the stop screw counter clockwise will increase the throttle travel thus increasing the maximum speed of the unit. Tighten the stop screw locking nut when the desired throttle travel has been established.

NOTE: Your unit includes an electronic speed control that is set to limit the maximum speed of the unit to the standards set by the CPSC for the age of the rider the unit was designed for.

Electrical Battery

The unit's battery is located under the seat and



supplies electrical power to the unit. The battery is a 12 volt jell acid type that contains no liquid electrolyte. The battery should be removed from the vehicle when stored for extended periods and charged before being replaced in the unit. Use a trickle charger set at 12 volts to recharge the battery to full charge before replacing it in the unit.

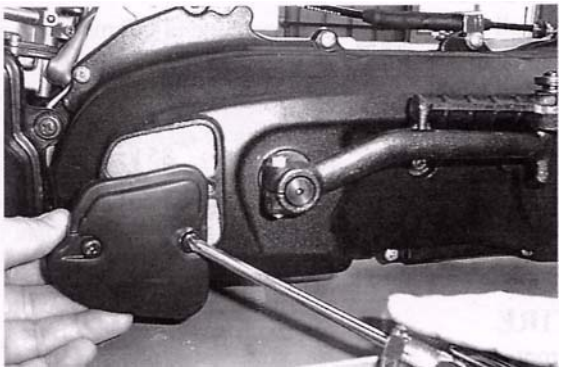
When reinstalling the battery, be sure to connect the red cable to the positive (+) terminal and the black cable to the negative (-) terminal.

The battery should be replaced every three years or when it no longer holds a charge.

Do not expose the battery, for extended periods of time, to freezing temperatures. If the battery has been frozen it will need to be replaced. There is an inline fuse on the positive lead of the battery to protect the wiring system from over loads. If your starter motor will not turn over and the battery is fully charged, check the inline fuse on the unit.

Replace the fuse with a 7A fuse.

C.V.T. Filter



This unit is equipped with an air filter for the C.V.T. transmission. It is located on the left-hand side of the engine, just ahead of the kick starter spindle. The filter will accumulate dust and must be cleaned periodically to maintain normal vehicle operations. Inspect and clean the filter every 30 operating days, more frequently if operated in a dusty environment.

To clean the filter, remove the two cover bolts and remove the filter. Clean the filter element in a non-flammable solvent and let dry completely before reinstalling. Replace the filter element and the cover.

Copyright ©2008-2009 ETON America, all rights reserved.

Transmission Gear selector



Viper 90R (only)

The Viper 90R model is equiped with a transmission gear selector switch mounted on the right hand side of the handlebars. The switch has three positions (“R” “N” “F”).
“R” = Reverse
“N” = Neutral
“F” = Forward



The selector **must be placed on “N”** to start the engine. Once the engine is started, engine the brake lever and move the selector switch to the desired direction of travel.

Always be sure the vehicle has come to a complete stop and the brake lever is fully engaged before turning the selector switch. Always pause in the “N” neutral positon for a few seconds when shifting from forward to reverse or from reverse to forward, this allows the transmission time to disengage and resycronize.

ATV Break In procedures

Your ATV requires a break in period just as with all other internal combustion engines. This period allows the engine parts to seat and wear properly without undue strain which can cause premature failure.

1. For the first two weeks of operation do not run your ATV at full throttle for extended periods of time.
2. Your first tank of fuel should be a pre-mixture of fuel and oil at a 50:1 ratio. This will insure that the oil pump system has been primed and bled of air that may have occurred in shipping.
3. Do not operate the unit at more than 85% of maximum speed.
4. Do not over rev the engine.
5. Use light braking pressure to allow the brake pads to seat to the rotor and drums.

Changing Transmission Oil





1. Place an oil catch pan under the unit directly below the transmission box.
2. Remove the transmission box drain plug located on the bottom of the transmission box on the underside of the unit.
3. Remove the transmission box fill whole plug locate on top of the transmission box near the oil tank bracket on the left hand side of the unit.

Copyright ©2008-2009 ETON America, all rights reserved.

4. Allow the oil to drain completely (15-30 min).
5. Reinstall the drain plug and tighten. Torque to 7-10lbf-ft
6. Fill the transmission box with SAE 80-90 gear oil.
    a. V70 & V90 100cc / 3.4oz
    b. V90R 300cc / 10.2oz
7. Reinstall the fill hole plug finger tight.
8. Dispose of used oil at a proper recycling station as required by law.

Pre-Operation Inspection procedure

The following procedure must be performed before each operating session.

Checking your ATV takes only a few minutes and may save you from serious injuries and costly repairs.

1. Check engine oil level.
2. Check engine fuel level.
3. Check brake operations and brake fluid Level.
4. Check tire condition and pressure.
5. Check drive chain condition and slack.
6. Check throttle operation and free play adjustment.
7. Check engine stop switch for proper operation.
8. Check steering system. Look for free and smooth operation. Check all fastening hardware.
9. Check all nuts, bolts and other fasteners for loose conditions.
10. Inspect unit for any broken or damaged parts.
11. Check all indicator lights and switches for proper operation.
12. Insure you are wearing proper clothing and protective gear. Helmet, Gloves Pads etc.

Starting Procedure

The following procedure must be followed each time you start your unit.

Park the unit on a level surface and lock the parking brake.
Place the transmission gear selector switch in the “N”, Neutral, position. *(Viper 90R only)*
Insure the safety tether switch cap is fully engaged. *(Viper 50M &70 Only)*
Turn the fuel valve to the “ON” position.
Insert the key into the ignition switch and turn to the “ON” position.
Turn the engine stop switch to the “ON” position.
Set the manual choke lever to the full left position (Choke close or on)
Apply slight pressure to the throttle lever.
Press the starter button on the left-handle bar.

Your unit should start within 10 seconds of pushing the starter button. If the unit fails to start check the following.

1. Engine stop switch is “ON”.
2. Parking Brake Locked “ON”.
3. Transmission selector switch in the “N” position *(Viper 90R only)*
4. Tether switch is fully inserted. *(Viper 50M & Viper 70 Only)*
5. If you have used the remote control switch to stop the unit, make sure you have pressed the run button on the switch to reset the engine stop receiver. *(Viper 50M & 70 standard equipped. Viper 90 & 90R Optional kit)*
6. Set the manual choke lever to the full left position (Choke close or on)

Driving your ATV

Your ATV should only be driven in an area that is designated for this use. Insure that the area is free of obstacles and other dangers that could cause a loss of control. Check with your local authorities for any regulations regarding the use of your ATV.

Always keep your feet on the footrests and your hands on the handle bar grips while operating your ATV. Doing so will give you the best control of the unit.

Copyright ©2008-2009 ETON America, all rights reserved.

Start your ATV by following the starting procedure above and allow the engine a few minutes to warm up before releasing the parking brake.

Start the unit by slowly increasing the throttle until the unit begins moving.

Turning your ATV

Learning to turn your ATV requires you to learn to shift your weight and control the throttle to allow the rear wheels to turn properly. When making a turn, the wheels on the outside of the turn must travel a wider radius and thus a greater distance than the inside wheels of the turn. Since the rear axle does not permit a different rate of rotation, it is not enough to merely steer your ATV into the turn.

To turn properly, steer in the direction of the turn and lean your body to the inside of the turn while supporting your weight on the outer footrest. Use the throttle to maintain power throughout the turn.

If you do not use this turning technique the unit will have a tendency to continue in a straight line. If this occurs, release the throttle lever to allow the unit to stop.
Avoid braking or accelerating until you have regained directional control.

Parking Your ATV

1. Always park your ATV on a level surface.
2. Turn the ignition key to the “OFF’” position to stop the engine.
3. Set the engine stop switch to “OFF” position.
4. Engage the parking brake locking button.
5. Turn the fuel valve to the “OFF” position.
6. Remove the ignition key to prevent unauthorized use or theft of your ATV.

Copyright ©2008-2009 ETON America, all rights reserved.



2005 VIPER 50M ATV Specifications

	Viper 50M (RXL-50M)
Engine	
Type	Two cycle air cooled
Displacement	49.3cc
Bore / Stroke	ϕ40.0 * 39.2mm
Compression	6.8 : 1
Power	5.2ps @ 7000rpm
Transmission	
Type	Automatic (C.V.T. V-Belt)
Chassis	
Overall Length	1430mm / 56.3"
Overall Width	820mm / 32.3"
Overall High	800mm / 31.5"
Wheel Base	930mm / 36.1"
Dry Weight	108kg / 238lbs
Suspension	
Front	Dual A-arm Adjustable Shocks
Rear	Swing Arm Shock
Brakes	
Front	N/A
Rear	Hydraulic Disc

Copyright ©2008-2009 ETON America, all rights reserved.

Tires			
Front			145/70-6
Rear			145/70-6
Tire Pressure	Front	Min	2psi / 0.14kg/cm2 (Cold)
		Max	7psi / 0.49kg/cm2 (Cold)
	Rear	Min	2psi / 0.14kg/cm2 (Cold)
		Max	7psi / 0.49kg/cm2 (Cold)
Wheels			
Bolt Pattern			4 x 110mm
Carburetor			
Make/Size			SW 18mm (Manual Coke)
Main Jet			85mm
Pilot Jet			20mm
Air Mixture Adjustment			Back out ¾ - 1¼ turns
Idle Speed			Idle 1700 - 1900rpm
Sprockets			
Front			19 teeth
Rear			28 teeth
Chain			#520
Battery			
			12V-4AH/5AH - GTX5L
Fluids			
Fuel	Type		Unleaded Gasoline 92 octane
	Volume		4.5liters / 1.2gal
Engine Oil	Type		High grade synthetic 2 cycle oil
	Volume		1.0liters / 1gt
Transmission	Type		SAE 80/90 weight
	Volume		100cc / 3.4oz
Spark Plug			
NGK			BPR7HS
Nipendenso			W22FRP-U
Champion			QL82YC
	Electrode Gap		0.6-0.7mm / 0.023"
Maximum Rider Weight			36.3kg / 80lbs
Minimum Rider Age			6 years

Copyright ©2008-2009 ETON America, all rights reserved.



2005 VIPER 70 ATV Specifications

	Viper 70 (RXL-70)
Engine	
Type	Two cycle air cooled
Displacement	68.0cc
Bore / Stroke	ϕ47.0 * 39.2mm
Compression	8.3 : 1
Power	6.3ps @ 6000rpm
Transmission	
Type	Automatic (C.V.T. V-Belt)
Chassis	
Overall Length	1470mm / 57.9"
Overall Width	850mm / 33.5"
Overall High	830mm / 32.7"
Wheel Base	930mm / 36.1
Dry Weight	108kg / 238lbs
Suspension	
Front	Dual A-arm Adjustable Shocks
Rear	Swing Arm Adjustable Shock
Brakes	
Front	Dual Mechanical drum
Rear	Hydraulic Disc

Copyright ©2008-2009 ETON America, all rights reserved.

Tires			
Front			16/8-7
Rear			16/8-7
Tire Pressure	Front	Min	2psi / 0.14kg/cm2 (Cold)
		Max	7psi / 0.49kg/cm2 (Cold)
	Rear	Min	2psi / 0.14kg/cm2 (Cold)
		Max	7psi / 0.49kg/cm2 (Cold)
Wheels			
Bolt Pattern			4 x 110mm
Carburetor			
Make/Size			SW 18mm (Manual Coke)
Main Jet			85mm
Pilot Jet			20mm
Air Mixture Adjustment			Back out ¾ - 1¼ turns
Idle Speed			Idle 1700 - 1900rpm
Sprockets			
Front			15 teeth
Rear			28 teeth
Chain			#520
Battery			12V-4AH/5AH - GTX5L
Fluids			
Fuel	Type		Unleaded Gasoline 92 octane
	Volume		4.5liters / 1.2gal
Engine Oil	Type		High grade synthetic 2 cycle oil
	Volume		1.0liters / 1gt
Transmission	Type		SAE 80/90 weight
	Volume		100cc / 3.4oz
Spark Plug			
NGK			BPR7HS
Nipendenso			W22FRP-U
Champion			QL82YC
	Electrode Gap		0.6-0.7mm / 0.023"
Maximum Rider Weight			68.2kg / 190lb
Minimum Rider Age			6 years

Copyright ©2008-2009 ETON America, all rights reserved.



Viper 90 & Viper 90R ATV Specifications

	Viper 90 (RXL-90) & Viper 90R (RXL-90R)
Engine	
Type	Two cycle air cooled
Displacement	82.5cc
Bore / Stroke	ϕ50.0 * 42.0mm
Compression	5.8 : 1
Power	7ps @ 7500rpm
Transmission	
Type	Automatic (C.V.T. V-Belt)
Chassis	
Overall Length	1500mm / 59.0"
Overall Width	850mm / 33.5"
Overall High	900mm / 35.4
Wheel Base	930mm / 36.1
Dry Weight	113kg / 249lbs
Suspension	
Front	Dual A-arm Adjustable Shocks
Rear	Swing Arm Adjustable Shock
Brakes	
Front	Dual Mechanical drum
Rear	Hydraulic Disc

Copyright ©2008-2009 ETON America, all rights reserved.

Tires			
Front			18/7-8
Rear			18/9-8
Tire Pressure	Front	Min	2psi / 0.14kg/cm2 (Cold)
		Max	7psi / 0.49kg/cm2 (Cold)
	Rear	Min	2psi / 0.14kg/cm2 (Cold)
		Max	7psi / 0.49kg/cm2 (Cold)
Wheels			
Bolt Pattern			4 x 110mm
Carburetor			
Make/Size			SW 18mm (Manual Coke)
Main Jet			85mm
Pilot Jet			20mm
Air Mixture Adjustment			Back out ¾ - 1¼ turns
Idle Speed			Idle 1700 - 1900rpm
Sprockets			
Front			15 teeth
Rear			28 teeth
Chain			#520
Battery			12V-4AH/5AH - GTX5L
Fluids			
Fuel	Type		Unleaded Gasoline 92 octane
	Volume		4.5liters / 1.2gal
Engine Oil	Type		High grade synthetic 2 cycle oil
	Volume		1.0liters / 1gt
Transmission	Type		SAE 80/90 weight
	V90 Volume		100cc / 3.4oz
	V90R Volume		300cc / 10.2oz
Spark Plug			
NGK			BPR7HS
Nipendenso			W22FRP-U
Champion			QL82YC
	Electrode Gap		0.6-0.7mm / 0.023"
Maximum Rider Weight			68.2kg / 190lb
Minimum Rider Age			12 years

Copyright ©2008-2009 ETON America, all rights reserved.

Maintenance Schedule

	First week	Every 30 Days	Every Year	Notes
Fuel Lines			I	Replace Fuel & Vent Lines every 2 years
Throttle Operation	I	I		Inspect as part of pre-ride inspection
Air Filter		C	R	
Fuel Filter			R	
Spark Plug		I	R	
Drive Chain	I, L	I, L		
Brake Shoes		I	I	
Brake System	I	I		Inspect as part of pre-ride inspection
Brake Fluid	I			Inspect as part of pre-ride inspection Replace every 2 years
Bolts, Nuts & Fasteners	I	I		Inspect as part of pre-ride inspection
Wheels	I	I		Inspect as part of pre-ride inspection
Steering system			I Every 6 months	Inspect as part of pre-ride inspection
Suspension System			I	
C.V.T. Filter		C		
C.V.T. Drive belt			I	Replace as needed
Transmission Oil			R or 100 hrs	
Choke		I		
Spark Arrester			C every 100 hrs	R every 200 Hours
Battery			I, C	

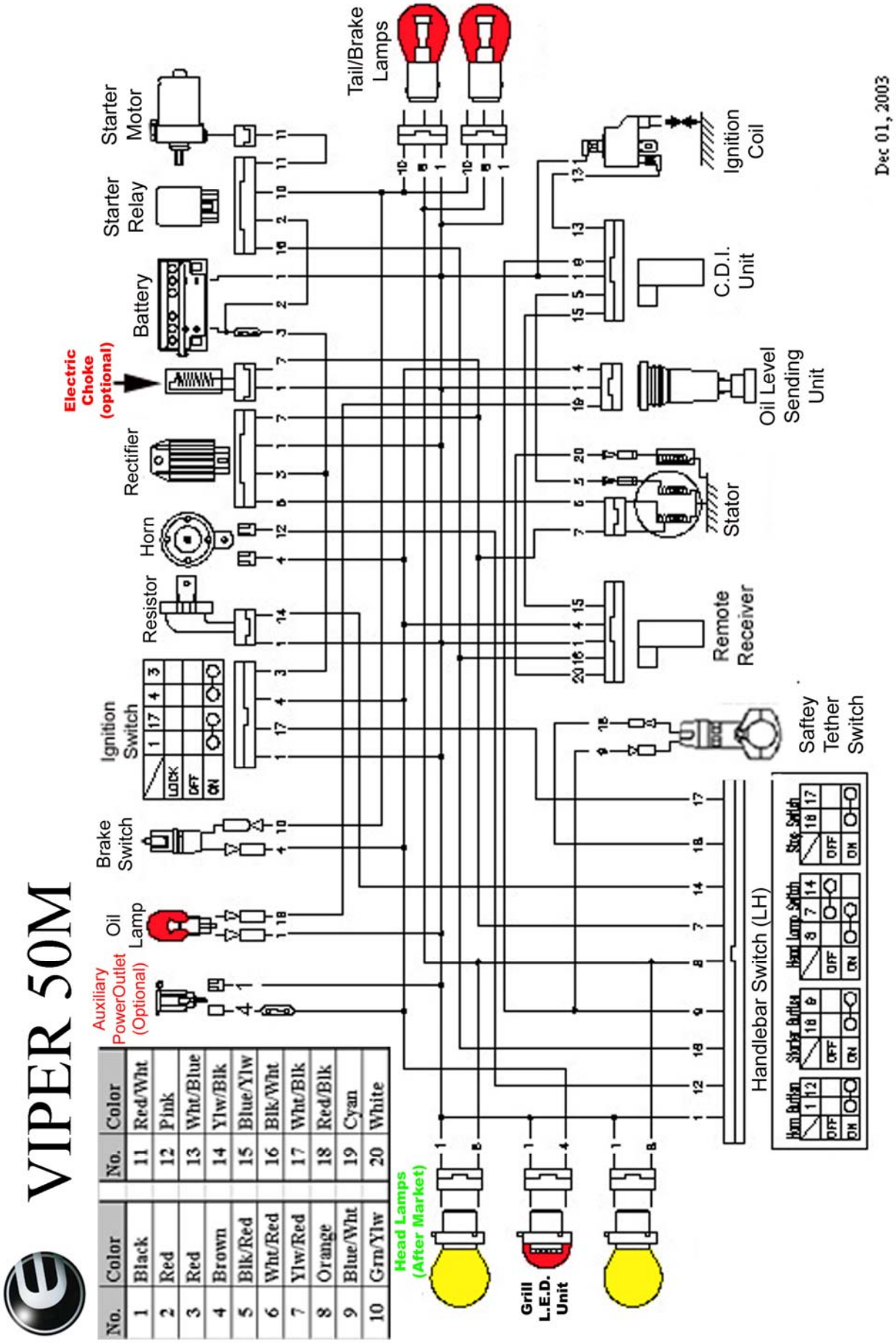
I = Inspect, Clean, Adjust, Lubricate or Replace as needed
C= Clean
L = Lubricate
R = Replace

Owners Maintenance Records

Maintenance Preformed	Date	Preformed By

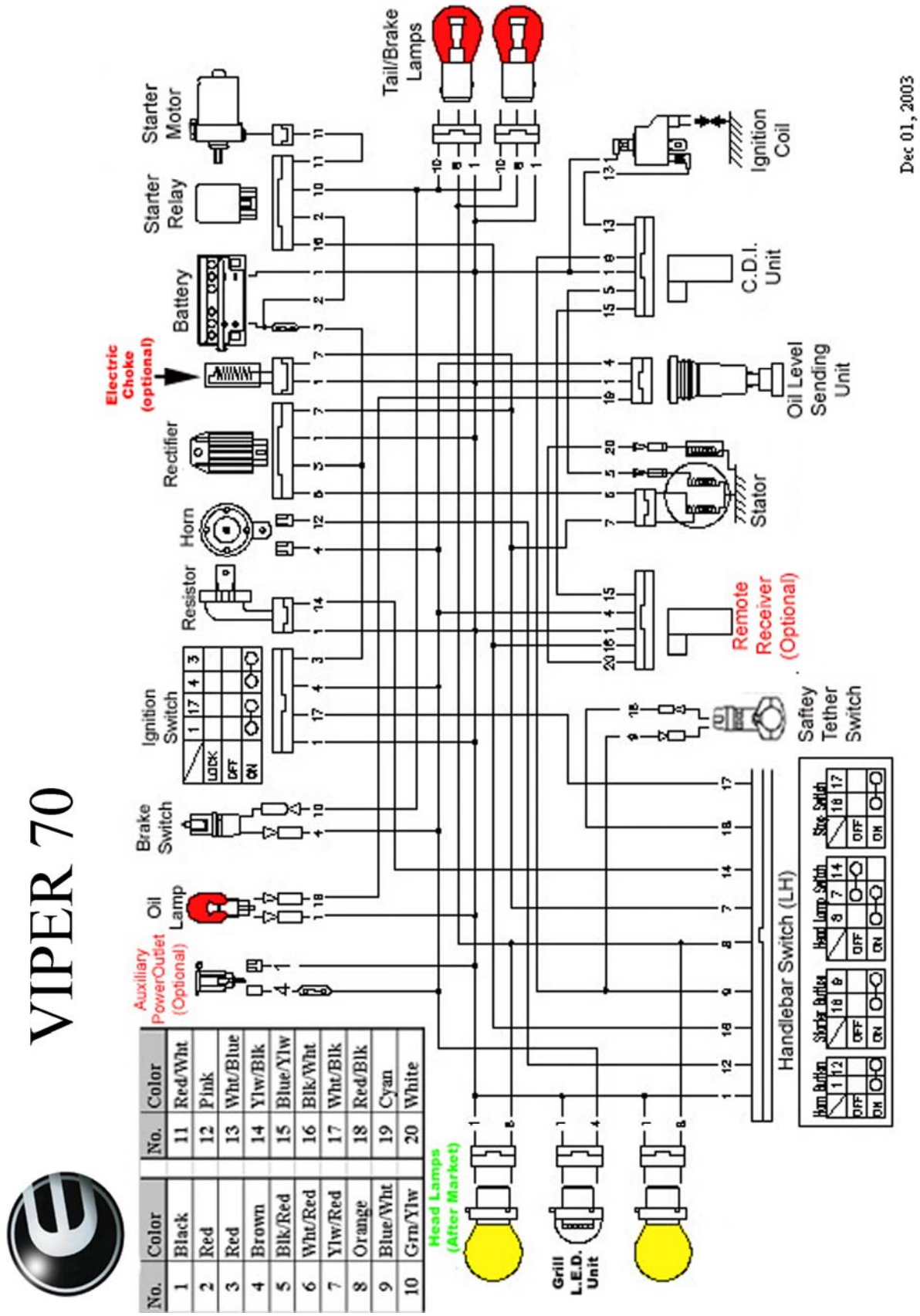
Copyright ©2008-2009 ETON America, all rights reserved.

Wire diagram Viper 50M (RXL-50M)



Copyright ©2008-2009 ETON America, all rights reserved.

Diagram Viper 70 (RXL-70)

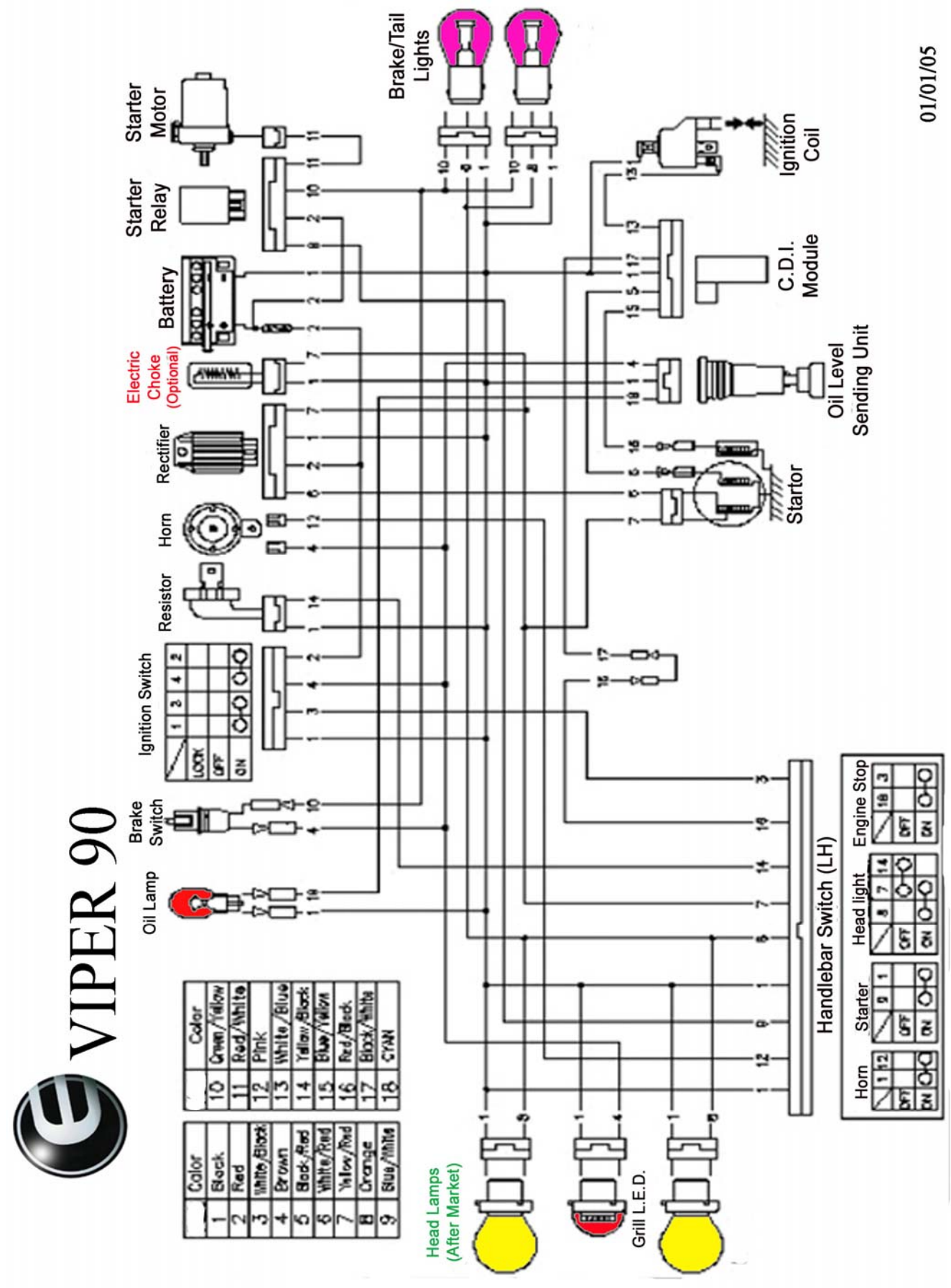


No.	Color
1	Black
2	Red
3	Red
4	Brown
5	Blk/Red
6	Wht/Red
7	Ylw/Red
8	Orange
9	Blue/Wht
10	Grn/Ylw

No.	Color
11	Red/Wht
12	Pink
13	Wht/Blue
14	Ylw/Blk
15	Blue/Ylw
16	Blk/Wht
17	Wht/Blk
18	Red/Blk
19	Cyan
20	White

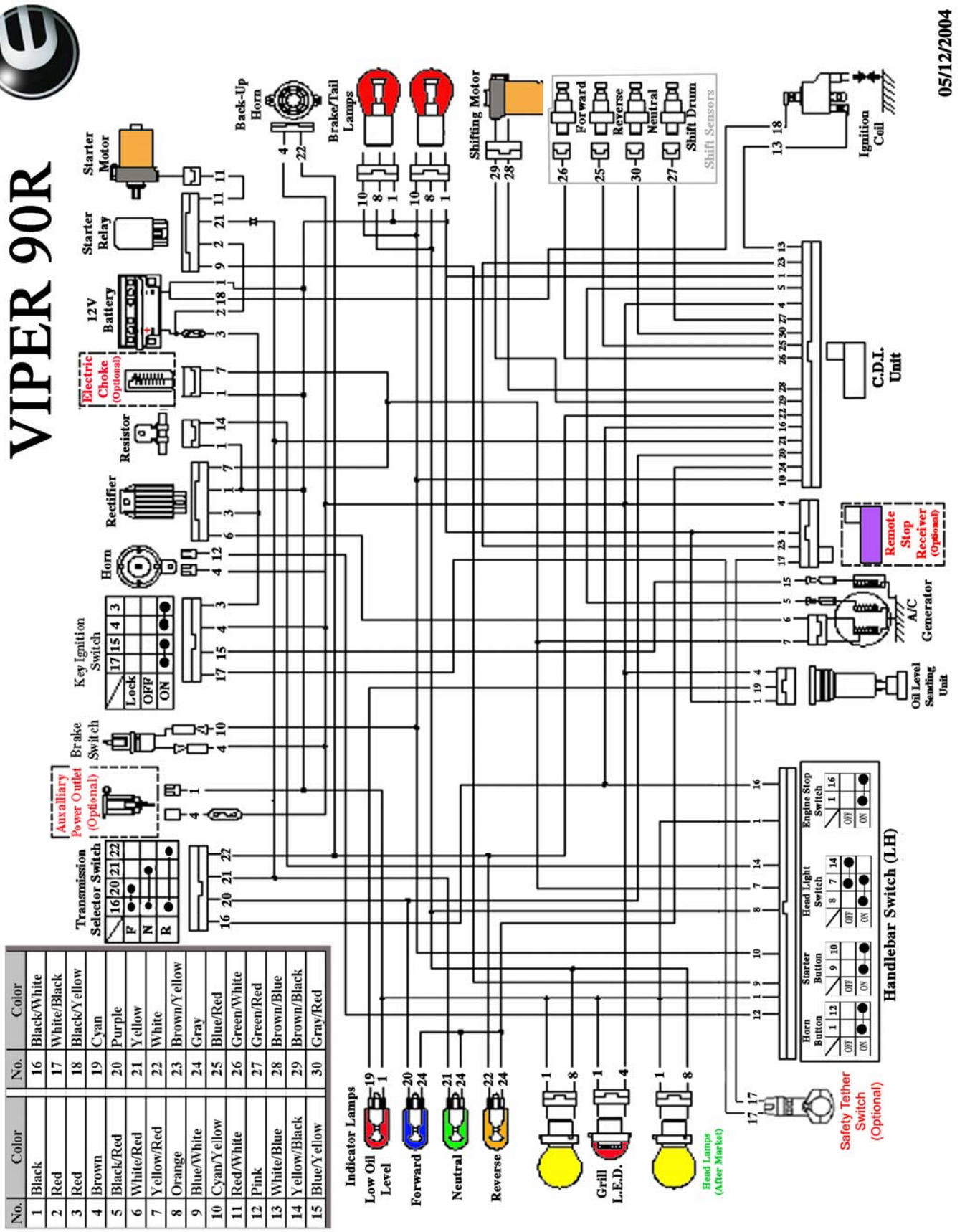
Copyright ©2008-2009 ETON America, all rights reserved.

Wire Diagram Viper 90 (RXL-90)



Copyright ©2008-2009 ETON America, all rights reserved.

Wire diagram RXL-90R



Copyright ©2008-2009 ETON America, all rights reserved.

ETON AMERICA, LLC.

LIMITED VEHICLE WARRANTY

ETON America warrants all new ETON vehicles sold by authorized Eton Dealers to be free from defects in materials and workmanship, subject to the following exclusions and limitations. New vehicles sold by an authorized dealer to original retail consumers are covered by this policy for a period of six (6) months from the date of delivery. There is no mileage limitation.

Vehicles used in rental service or for certain commercial purposes are specifically excluded from this policy. (Check with your dealer for warranty application.)

Items and conditions that are specifically excluded from this warranty program are;

1. Damage caused by accidents, misuse, negligence, improper vehicle operation.
2. Any modification or alteration to any standard specifications or equipment.
3. Any repairs made by an unauthorized dealer or service firm.
4. Use of non-ETON genuine parts for repairs or alteration to standard specifications.
5. Damage caused by failure to perform factory scheduled service maintenance.
6. Damage which occurs as a result of improper storage.
7. Damage caused by the use of improper fuel or lubricants, and/or failure to use proper oil/gas mixture on two stroke models.

The following normal wear parts are specifically excluded from warranty coverage:

1. Rubber parts
2. Tires
3. Belts
4. Brake linings
5. Normal wear item
6. Brake parts
7. Cables
8. Filters
9. Spark plugs
10. Bulbs
11. Batteries
12. Sprockets
13. External springs
14. Seat and hand grips.

Copyright ©2008-2009 ETON America, all rights reserved.

Scheduled maintenance service is the responsibility of the owner during and after the warranty period. In the event of a failure or required repair, the owner should take vehicle to an authorized dealer for repair without undue delay and within a maximum of thirty, (30), days of the occurrence of the problem. All eligible warranty repairs must be made at any authorized dealer's normal place of business. Any transportation costs, or other expenses which may occur in order to obtain warranty service, are the responsibility of the owner. All eligible repairs covered under this warranty will be paid to the servicing dealer only, by ETON America, and no additional payments shall be made for authorized warranty repairs.

Dealer and/or ETON America are not responsible for loss of use, other damage or inconvenience due to warranty repairs. It is the customer/buyer's responsibility to review with the selling dealer the pre-delivery service schedule to assure machine is properly serviced prior to delivery acceptance. It is recommended that the buyer take a test ride to familiarize themselves with the machine and to make certain the unit is in proper operating condition. The dealer is responsible for checking and performing all items on the "set-up and pre-delivery checklist" prior to delivery to the customer.

This warranty is valid at any authorized ETON Dealer in the United States only. In the event you experience any problem obtaining prompt service, contact ETON America, customer service department for assistance. Always consult first with your selling dealer and or service personnel for assistance with any service work or repairs. In the event you have a problem obtaining service send your name, address, and vehicle identification number to Eton America for assistance.

The above stated policy is the only policy offered and backed by ETON America, and no other organization or individual is authorized to make or offer any different arrangements. Some states prohibit certain limitations or conditions or do not allow exclusions or limitations. You may be eligible for additional consideration, so check with your local dealer or appropriate state agency for assistance. Rights vary from state to state, and you may have other rights not offered in this warranty.

ETON America warrants all new vehicles comply with applicable US regulations.

Copyright ©2008-2009 ETON America, all rights reserved.



Copyright ©2008-2009 ETON America, all rights reserved.